

REMARKS

The Official Action of September 22, 2008, and the prior art cited and relied upon therein have been carefully studied. The claims in the application remain claims 2-6 and 9-15, and these claims define patentable subject matter warranting their allowance. Favorable reconsideration and such allowance are respectfully urged.

Claims 7 and 8 have been canceled in favor of new claims 14 and 15. Claims 2-6 and 9-15 remain in the application for consideration.

The Examiner has rejected claims 2-4 and 7-11 under 35 U.S.C. §103(a) as being unpatentable over Redman '988 in view of Elliott '316; and claims 5, 6, 12 and 13 under 35 U.S.C. §103(a) as being unpatentable over Redman in view of Elliot '316 further in view of Hagler '214. Applicant respectfully traverses these rejections as applied to the claims as amended.

The primary inventive feature of the claimed invention is the feature of the cylinders being provided within a single block formed as a unit together with the seats of the intake valves, with said conduits and with said manifolds.

Applicant submits that this feature is not disclosed in either Redman nor in Elliot. The Examiner notes that the difference between Redman and the claimed invention is that all components mentioned by the Examiner are not contained in a single block. The Examiner maintains that the missing feature (the single block) is disclosed by Elliot, and that it would have been obvious to modify Redman according to Elliot to reach the claimed invention. Applicant does not agree.

Redman has seven separated parts unified in a single block. Applicant submits that forming these parts as a unit in a single block would make it impossible to

assemble the pump. For example, the three separate parts 26, 27 and 22, should these parts be realized as a single block, it would be impossible to insert and lock the valve member. To form the single block as a unit further requires the diameter of the cylinder 19 to be larger than the diameter of the axial bore of the part 26 containing the exhaust valve, and the diameter of 26 to be larger than the diameter of the bore of the part 27 down stream from the exhaust valve.

Applicant respectfully submits that there is no teaching whatever in Elliot of providing cylinders within a single block together with the seats of the intake valves, with the conduits and the manifolds.

Applicant further notes that in Elliot the seats of the valves are separated from the block comprising the exhaust manifold 26. Also, the intake manifold 22 is separated from the block comprising the exhaust manifold.

The above consideration apart, no teaching can be found in Elliot of making the diameter of the cylinder seat larger than the diameter of the seat of the exhaust valve. Therefore adopting the teachings of Elliot to modify the pump of Redman would lead far from the claimed invention, and would not give useful results.

A problem to be solved by the claimed invention arises when the pump exceeds a determined operation pressure, possibly subjecting the region around the delivery and intake conduit connections in the cylinder head to repeated high fatigue stresses due to pressures that may exceed 300 bar.

Concerning such a problem, the abstract of Redman clearly states that the pumps is made using a cylinder block that has only two passages each if uniform diameter.

That means there is no suggestion either in Redman to solve such problem in the way provided by the claimed invention, namely by means of at least a delivery conduit 80 having a diameter much smaller than the diameter of the cylinder. To the contrary, the claimed invention provides small delivery conduit(s), a feature that correspondingly increases thickness and strength of the whole structure.

Applicant further submits that a person skilled in the art could not start from Redman and provide for a unitary structure that would have automatically solved the problems noted above.

Applicant respectfully submits that the claimed invention patentably defines over the cited prior art at least on the basis of the structural differences and reasons noted above.

The prior art documents made of record and not relied upon have been noted along with the implication that such documents are deemed by the PTO to be insufficiently pertinent to warrant their applications against any of applicant's claims.

Favorable reconsideration and allowance are earnestly solicited.

Respectfully submitted,

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